

REMARKS

The Office Action of July 24, 2008 has been carefully reviewed by the applicant, who submits the following remarks. In the Office Action, claims 28, 30, 41, 44, 45, 54, 55, and 59 have been rejected under 35 USC §112, second paragraph, as being indefinite. Claims 27-35, 37-39, 43-45, 50, 52-55, 57, 59, 60, and 62 have been rejected under 35 USC §102(e) in view of DeVoss et al, US Patent No. 6,488,337 (hereinafter "DeVoss"). Claims 36, 40-42, 46-49, 51, 56, 58, 61, and 65 have been rejected under 35 USC §103(a) as being obvious.

By the present amendment, claims 27, 28, 30, 36, 41, 44, 45, 50, 54, 55, 59, 63, and 66 are hereby amended. Claim 43 is cancelled. Therefore, based on the currently presented amendments and arguments, this case is believed to be allowable with claims 27-42 and 44-66.

Claim Objection

Claim 45 has been objected to because the phrase "the thread section" lacks antecedent basis. Claim 45 has been amended to remove reference to "the thread section", thereby rendering this objection moot.

Claim Rejection - 35 USC §112

Claims 28, 30, 41, 44, 45, 54, 55, and 59 have all been rejected under 35 USC §112 as being indefinite for failing to particularly point out and distinctly claim the subject matter regarded as the invention.

Claims 28, 30, 41, 44, 45, 54, 55, and 59 have all been amended in view of the comments and questions raised by the Examiner to clarify that which the applicant regards as the invention. Therefore, by the present amendments, each of the rejected claims are believed to be definite.

Claim Rejections - 35 USC §102(e)

Claims 27-35, 37-39, 43-45, 50, 52-55, 57, 59, 60, and 62 have been rejected as being anticipated by the disclosure of DeVoss.

Claim 27

Independent claim 27 has been amended to further recite that the at least one cam is "pivotally mounted with respect to the seat frame about an axis, the at least one cam including a cam profile, the cam profile supporting and being movable with respect to the seat." This amendment to claim 27 helps to highlight a distinguishing feature of the invention as claimed over the disclosure of DeVoss.

In DeVoss, a front mounting bracket is fixedly mounted onto a track of a seat frame. A front seat support is fixedly secured to the underside of the front of the seat. A link is pivotally mounted to both the front mounting bracket and the front seat support allowing movement of the front of the seat. A similar arrangement is provided affixed to the back of the seat. In particular, a rear mounting bracket is mounted to the frame, with a rear seat support being fixedly connected to the underside of the rear of the seat. A link is provided between the rear mounting bracket and the rear seat support, this link being pivotally connected to each of the rear mounting bracket and the rear seat support.

As highlighted by the present amendment to claim 27, the cam is pivotally mounted with respect to the seat and the cam includes a cam profile. This cam profile supports the seat and is movable with respect to the seat. By providing a cam having a cam profile that supports the seat and is movable with respect to the seat, as claimed, a greater degree of movement of the seat is achieved as the seat need not pivot about a fixed point with respect to the frame.

In DeVoss, the drive plate 40 is fixedly mounted to the seat through the rear seat support 38. Thus, in DeVoss, the seat can only pivot about the fixed point represented by the rear seat support 38 with respect to the frame.

Rather, as claimed in claim 27, as the cam is pivoted with respect to the seat frame, the point of contact between the seat and the cam profile is free to move along the seat and the cam profile, allowing the point of contact to move as the seat is moved between the lower position and the raised position.

Therefore, based upon this distinction, independent claim 27 is believed to be novel over the disclosure of DeVoss.

Claim 31

Claim 31 depends directly from independent claim 27, which is herein believed allowable. Claim 31 is further believed to be independently allowable as claim 31 further specifies that the seat rests on the cam profile of the at least one cam. The Examiner has asserted that DeVoss discloses this as the seat rests on the drive plate via the rear seat support. However, this interpretation of DeVoss contradicts the disclosure of DeVoss and the feature claimed in claim 31. In claim 31, the seat rests on the cam profile of the cam, which in combination with the rest of claim 27, the cam profile is movable with respect to the seat. However, the drive plate of DeVoss is fixedly attached to the seat at a specific point via the rear seat support. Furthermore, in DeVoss, the drive plate is secured to the rear seat support via a pivot pin that passes through both the rear seat support and the drive plate. Thus, the seat does not rest on the cam profile of the cam. Rather, the seat (via the rear seat support) rests on the pivot pin extending through the rear seat support and the drive plate.

For the foregoing reasons, as well as those recited with respect to claim 27, claim 31 is believed to be independently novel over by DeVoss.

Claim 44

Presently amended claim 44 depends directly from independent claim 27, which is herein believed allowable. Presently amended claim 44 is also believed to be independently allowable as the claim now recites that the gear is attached or integrated to

at least one cam, coaxial with the axis of the at least one cam. The Examiner has pointed to the sprocket gear 66 and the drive plate 40 of DeVoss as anticipating the claimed at least one cam and gear attached or integrated to the at least one cam. DeVoss fails to anticipate claim 44 as the sprocket gear 66 is not attached or integrated to the at least one cam, nor is the sprocket gear 66 coaxial with the axis of the at least one cam. Therefore, the structure disclosed by DeVoss fails to anticipate the claimed raiser seat structure in claim 44.

Claim 55

Currently amended claim 55 depends indirectly from independent claim 27, which is herein believed allowable. Presently amended claim 55 now recites that the "at least one connecting member is of a variable length or variable position with respect to the cam to facilitate the removal of the connecting member from the at least one guide track."

The Examiner had previously cited the rear mounting bracket 26 of DeVoss as anticipating the claimed connecting member as the rear mounting bracket 26 "can" vary in length.

Referring to claim 36, from which presently amended claim 55 depends, the guide track is formed on the seat and the connection member is used to interface the cam with the guide track. As presently claimed in claim 55, the connecting member is of a variable length or variable position with respect to the cam. Both of these claimed features distinguish the invention claimed in claim 55 from that disclosed by DeVoss. First, the claimed guide track is formed on the seat, whereas the Examiner's cited rear mounting bracket 26 is riveted or otherwise fixedly secured to a seat track mechanism. In the context of the claims, the seat is a separate and distinct element from the seat frame. DeVoss teaches the track to which the rear mounting bracket is secured as part of the seat frame, rather than the seat, as in claim 55. Therefore, the structure of DeVoss does not anticipate the structure claimed in claim 55.

Furthermore, the connecting member claimed in claim 55 is of a variable length or variable position with respect to the cam. The rear mounting bracket 26 relied upon by the Examiner is fixedly mounted to the seat track mechanism and is rotatably mounted to the drive plate 40 by the first pivot pin 50. The first pivot pin 50 is of a fixed length and is in a fixed position with respect to the cam. Therefore, the first pivot pin 50 is fixedly mounted and is nowhere disclosed to be of a variable length or variable position. Finally, DeVoss does not disclose a variable length or variable position structure that facilitates the removal of the connecting member from the at least one guide track.

Therefore, claim 55 is believed to be independently allowable over the disclosure of DeVoss as DeVoss fails to disclose the claimed structures or the claimed function of the raiser seat of claim 55.

Claim 59

Presently amended claim 59 depends directly from independent claim 27, which is herein believed allowable. Presently amended claim 59 is also believed to be independently allowable. Claim 59 further recites that the "cam comprises a multiple piece linkage of a plurality of rigid cam sections, connected by at least one joint, the multiple piece linkage having limited rotational movement about the at least one joint." The Examiner has cited the linkage provided by the second pivot pin 52 between the rear seat support 38 and the drive plate 40 as disclosing this claimed feature. However, the presently amended claim 59, beyond the distinctions identified with respect to claim 27, is believed to be independently allowable as claim 59 further recites that the multiple piece linkage has limited rotational movement about the at least one joint.

The disclosure of DeVoss fails to include any limitation to the rotational movement about the second pivot pin, and rather relies upon the free rotation of the rear seat support 38 and the drive plate 40 about the second pivot pin in order to effect the seat height adjustment function.

Therefore, presently amended claim 59 is also believed to be independently allowable over DeVoss for the reasons cited above as well as the subject matter recited therein.

Claims 28-30, 32-35, 37-39, 45, 50, 52-54, 57, 60, and 62

Claims 28-30, 32-35, 37-39, 45, 50, 52-54, 57, 60, and 62 all depend directly and/or indirectly from presently amended independent claim 27. For the reasons stated above, presently amended independent claim 27 is believed to be allowable over the disclosure of the cited DeVoss reference. As such, claims 28-30, 32-35, 37-39, 45, 50, 52-54, 57, 60, and 62 are all believed to also be allowable for the reasons stated above with respect to independent claim 27, as well as the subject matter recited specifically in each of these claims.

Claim Rejection -- 35 USC §103

Claims 63 and 66

Presently amended independent claims 63 and 66 have been rejected for being obvious in view of DeVoss in view of DeWeese (hereinafter "DeWeese").

Both independent claims 63 and 66 have been amended and now recite that the at least one cam (or pair of coaxial cams) are pivotally mounted with respect to the seat frame, the cam profile supporting and being movable with respect to the seat such that the rotation of the at least one cam results in movement of the seat relative to the seat frame between the lower position and the raised position.

As to discussed above with respect to claim 27, the claimed cam profile supports the seat and is movable with respect to the seat. This feature is not disclosed by either DeVoss or DeWeese.

In DeWeese, the seat raising mechanism is fixed to the seat and to the bottom seat frame via a multiplicity of hinge pins (column 3, lines 56-57; Fig. 3).

Therefore, presently amended independent claims 63 and 66 are not obvious in view of the combination of DeVoss and DeWeese as neither of these references disclose the claimed structure found in claims 63 and 66.

Independent claims 63 and 66 are further not obvious in view of the disclosures of DeVoss and DeWeese as the invention claimed in claims 63 and 66 present multiple advantages not found in the prior art. Specifically, the invention as presently claimed in claims 63 and 66 provide a greater flexibility and control of the movement of the seat as well as increased maximum range of movement of the seat without increasing the depth of the moving mechanism.

The invention presently claimed in claims 63 and 66 allows for greater control of the movement of the seat based upon the interface between the seat and the cam profile of the at least one cam. Thus, while prior art adjustable seats may tilt the seat (as in DeVoss) or raise the seat (as in DeWeese), the invention as presently claimed in claims 63 and 66, the seat can be controlled both with respect to raising the seat and tilting the seat based upon the cam profile and its ability to move with respect to its support of the seat. Both DeVoss and DeWeese use a pivot axis that is connected to the seat itself. This restricts the resulting available position of the seat, a feature which is improved upon by the invention claimed in claims 63 and 66.

Furthermore, the maximum range of movement of the seat is greatly increased by the invention claimed in claims 63 and 66 without increasing the depth of the moving mechanism. With respect to the disclosure of DeVoss, the absolute lowest position for the rear of the seat occurs where the pivoting connection between the rear seat support and the drive plate is directly below the pivot between the drive plate and the rear mounting bracket. The maximum height is when the pivot between the rear seat support and the drive plate is directly above the pivot between the drive plate and the rear mounting bracket. This is due to the fixed pivot point between the rear mounting bracket affixed to the seat and the drive plate effecting the position control. Accordingly, the maximum amount of movement between the lowest position and the highest position is

twice the linear distance between the two pivot points on the drive plate. To increase the amount of lift, it is necessary to increase this distance, and it will result in an increase in depth of the movement mechanism.

According to the invention claimed in claims 63 and 66, the amount of movement of the seat is largely based on the cam profile of the cam. This is not dependent upon the cam depth. Accordingly, a much greater range of lift moment can be achieved with the arrangement of the inventions claimed in claims 63 and 66 as compared to those disclosed by DeVoss and DeWeese.

It should be noted that the wide range of movement achievable by the invention claimed in claims 63 and 66 is important where the seat has the function of assisting a person from a sitting to a standing position. This is not disclosed in DeVoss. The disclosure in DeVoss is merely that of a car seat which can be marginally adjusted for the comfort of the driver. It cannot assist a person from a sitting to a standing position. Therefore, as well as this being a distinguishing feature between claims 63 and 66 and the disclosure of DeVoss, this is further evidence that one skilled in the art would not wish to modify the arrangements of DeVoss in order to provide the lifting functions performed by DeWeese and the invention claimed in claims 63 and 66.

Therefore, for all of the aforementioned reasons, claims 63 and 66 are believed to be non-obvious over the cited disclosures of DeVoss and DeWeese.

Claims 36, 40-42, 46-49, 51, 56, 58, and 61

Claims 36, 40-42, 46-49, 51, 56, 58, and 61 all depend directly and/or indirectly from presently amended independent claim 27. As such, claims 36, 40-42, 46-49, 51, 56, 58, and 61 are all believed to be allowable for the reasons stated above with respect to claim 27, as well as for the subject matter specifically recited therein.

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Claims 64 and 65

Claims 64 and 65 depend directly from currently amended independent claim 63, which is herein believed allowable. As such, claims 64 and 65 are also believed to be allowable for the reasons stated above with respect to independent claim 63, as well as for the specific subject matter recited in each of these claims.

Conclusion

By the present amendment and response, the present case is believed to be novel and non-obvious over the cited references. Therefore, the present application is believed to be in a condition for allowance with currently presented claims 27-42 and 44-66. Such action is earnestly requested.

Respectfully submitted,

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